

# TA-F100/F200

## SERVICE MANUAL

AEP Model  
UK Model  
TA-F100/F200

E Model  
TA-F100



### SPECIFICATIONS

#### Amplifier

Continuous RMS power output (both channels driven simultaneously)

West Germany model

		TA-F100	TA-F200
DIN, 1 kHz	4 ohms	42 W + 42 W	50 W + 50 W
	8 ohms	33 W + 33 W	38 W + 38 W
40 Hz - 20 kHz THD 0.05%	4 ohms	30 W + 30 W	42 W + 42 W
	8 ohms	28 W + 28 W	34 W + 34 W

Other models

		TA-F100	TA-F200
DIN, 1 kHz, 8 ohms		48 W + 48 W	65 W + 65 W
40 Hz - 20 kHz, THD 0.05%, 8 ohms		43 W + 43 W	55 W + 55 W

Music power output (TA-F100 except for AEP and UK models)  
170 W

#### Input

Input jack			Jack type	Sensitivity	Impedance	S/N (weighting network, input level)	
						West Germany model	Other models
PHONO	MM	TA-F100	Phono	2.5 mV	50 kilohms	81 dB (A, 2.5 mV)	85dB (A, 25 mV)
		TA-F200				82 dB (A, 2.5 mV)	88dB(A, 25 mV)
	MC (TA-F200 only)		Phono	170 $\mu$ V	100 ohms	64 dB (A, 170 $\mu$ V)	68dB (A, 170 $\mu$ V)
	TUNER, CD, VIDEO/AUX, TAPE/DAT		Phono	150 mV	50 kilohms	100 dB (150 mV)	

— Continued on page 2 —

**INTEGRATED STEREO AMPLIFIER**  
**SONY**®

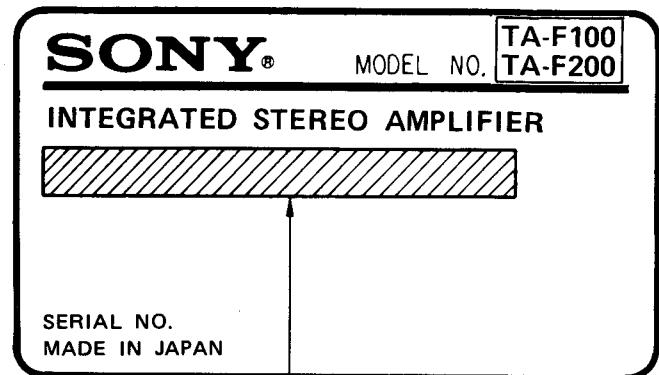


MICROFILM

Loudness (Attenuation 30 dB)	
+ 6 dB (100 Hz)	
+ 3 dB (10 kHz)	
Power bandwidth (IHF)	
10 Hz - 40 kHz (8 ohms, 20 watts)	
Dynamic headroom	
1.5 dB (78 IHF)	
Harmonic distortion	
Less than 0.05% at rated output	
Intermodulation (IM) distortion (60 Hz : 7 kHz = 4 : 1)	
Less than 0.05% at rated output	
Frequency response	
PHONO: RIAA equalization curve $\pm 0.5$ dB	
TUNER, CD, VIDEO/AUX, TAPE1, TAPE2/DAT:	
7 Hz - 100 kHz $\pm 3$ dB	
Residual noise	Less than 170 $\mu$ V (8 ohms, network A)
Damping factor	36 (8 ohms, 1 kHz)
<b>General</b>	
System	Preamplifier: Low-noise, high-gain equalizer amplifier Power amplifier: Pure-complementary SEPP OCL power amplifier with all stages directly coupled
Power requirements	AEP model: 220 V AC, 50 Hz UK model: 240 V AC, 50 Hz E model: 120 V, 220 V or 240 V AC adjustable, 50/60 Hz
Power consumption	West Germany model: TA-F100: 90 W TA-F200: 100 W UK model: TA-F100: 230 W TA-F200: 270 W AEP, E model: TA-F100: 85 W TA-F200: 110 W
Dimensions	Approx. 430 x 118 x 265 mm (w/h/d) (17 x 4 1/4 x 10 1/2 inches)
Weight	TA-F100: Approx. 5.5 kg (12 lb 3 oz) TA-F200: Approx. 6.4 kg (14 lb 2 oz)

## MODEL IDENTIFICATION

— Specification Label —



### TA-F100:

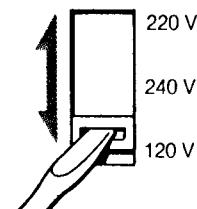
West Germany Model: AC: 220 V ~ 50/60 Hz 90 W  
AEP Model: AC: 220 V ~ 50/60 Hz 85 W  
UK Model: AC: 240 V ~ 50/60 Hz 230 W  
E model: AC: 120, 220, 240 V ~ 50/60 Hz 85 W

### TA-F200:

West Germany Model: AC: 220 V ~ 50/60 Hz 100 W  
AEP Model: AC: 220 V ~ 50/60 Hz 110 W  
UK Model: AC: 240 V ~ 50/60 Hz 270 W  
E Model: AC: 120, 220, 240 V ~ 50/60 Hz 110 W

## On operating voltage

Where purchased	Operating voltage
UK model	240 V AC
AEP model	220 V AC
E model	120 V, 220 V or 240 V AC adjustable The voltage selector is located on the rear panel.



## SAFETY-RELATED COMPONENT WARNING!!

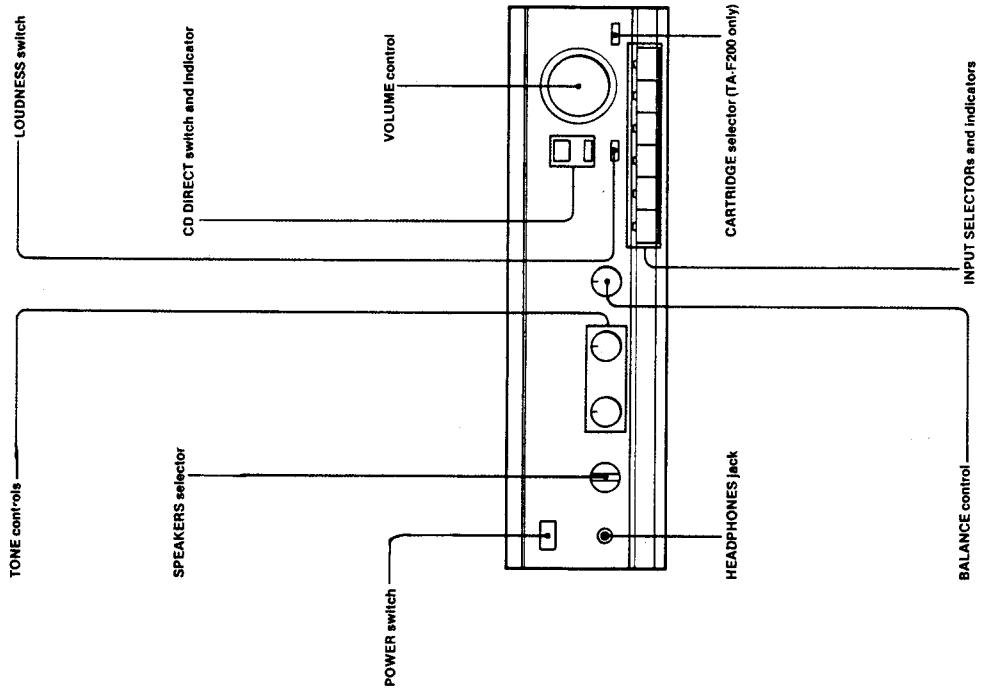
**COMPONENTS IDENTIFIED BY SHADING AND MARK**  
**⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE**  
**PARTS LIST ARE CRITICAL TO SAFE OPERATION.**  
**REPLACE THESE COMPONENTS WITH SONY PARTS**  
**WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS**  
**MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

## TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
Specifications		1	2. DIAGRAMS		
Model Identification		2	Circuit Boards Location		5
On Operating Voltage		2	2-1. Schematic Diagram		6
<b>1. GENERAL</b>			2-2. Printed Wiring Boards		9
Parts Identification		3	Semiconductor Lead Layouts		12
Connection		4	3. EXPLODED VIEWS		13
Troubleshooting Guide		4	4. ELECTRICAL PARTS LIST		15

## SECTION 1

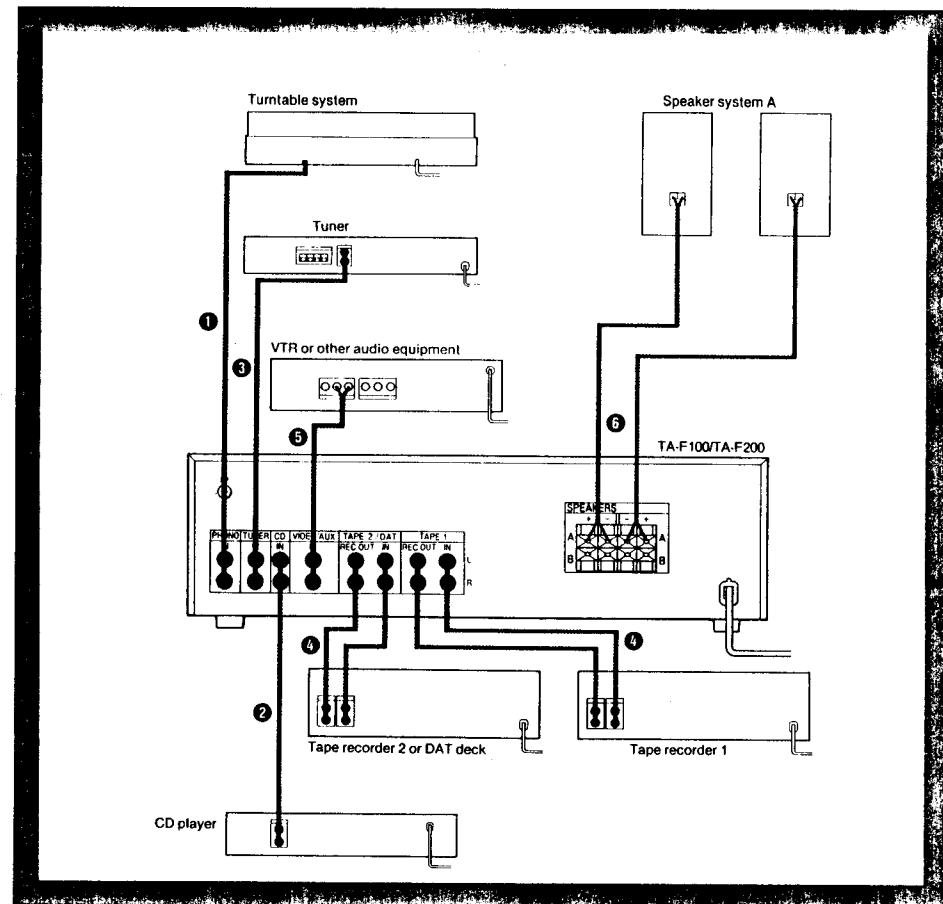
### GENERAL



## Connection

## Notes on Connection

- Connect the AC power cord last. Make sure power is off.
- Cord plugs and jacks are color coded. Red plugs and jacks are for right channel (R) and white ones for left channel (L).
- Fully insert cable connectors into jacks. Loose connections may cause hum or noise.

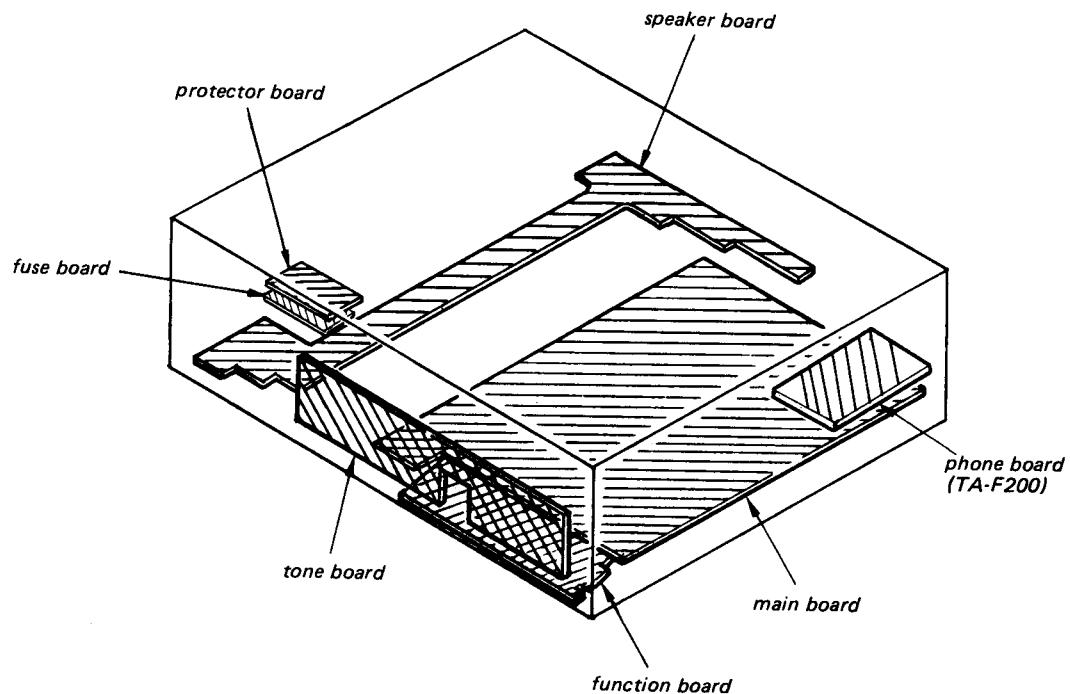


## Troubleshooting Guide

No audio	<ul style="list-style-type: none"> <li>• Check power cord connection.</li> <li>• Check speaker and program source connections.</li> <li>• Check SPEAKERS selector setting.</li> <li>• Check INPUT SELECTOR setting.</li> <li>• Check CD DIRECT switch setting.</li> <li>• Adjust VOLUME control.</li> </ul>
No audio from one channel or unbalanced left and right volume	<ul style="list-style-type: none"> <li>• Adjust BALANCE control.</li> <li>• Check speaker and input connections of inoperative channel.</li> </ul>
Abrupt sound loss from both speakers	<ul style="list-style-type: none"> <li>• Turn off amplifier. Check speaker terminals and connecting cords for short.</li> </ul>
Lack of bass sound or obscure instrument position	<ul style="list-style-type: none"> <li>• Check speaker +/- connections for proper phasing.</li> </ul>
TONE controls do not work.	<ul style="list-style-type: none"> <li>• Release CD DIRECT to OFF.</li> </ul>
Severe hum or noise	<ul style="list-style-type: none"> <li>• TV or VTR is too close to audio system.</li> <li>• Move connecting cords away from transformers, motors or fluorescent lights.</li> <li>• Fully insert connecting cord plugs.</li> <li>• Ground turntable system.</li> <li>• Disconnect turntable ground wire when using an MM cartridge with a ground piece.</li> <li>• Wipe plugs and jacks with a cloth lightly moistened with methanol.</li> </ul>

## SECTION 2 DIAGRAMS

- CIRCUIT BOARDS LOCATION



## 2-1. SCHEMATIC DIAGRAM

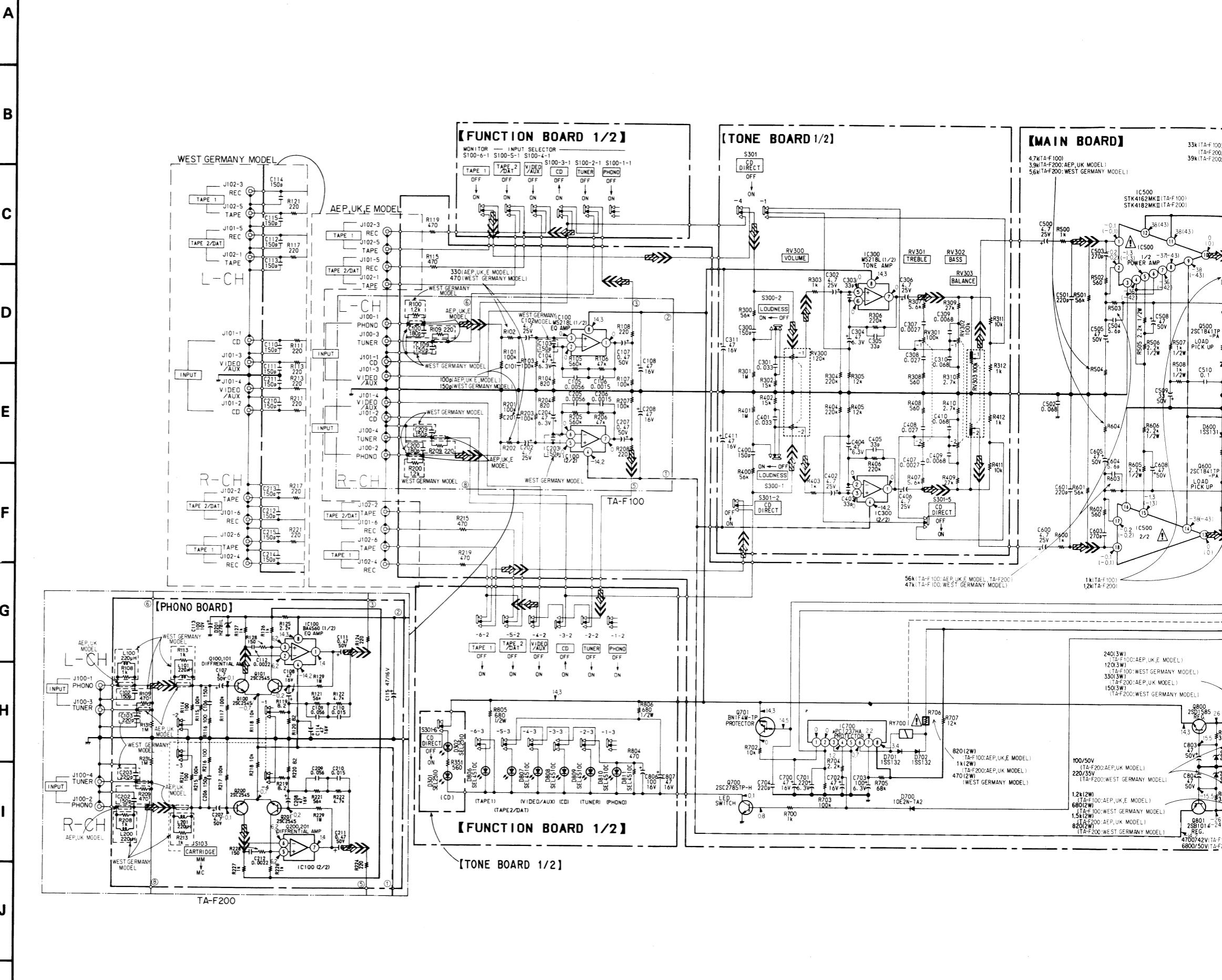
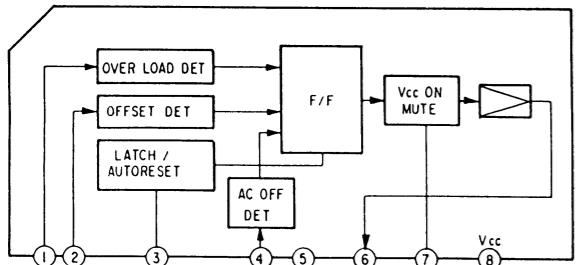
**Note:**

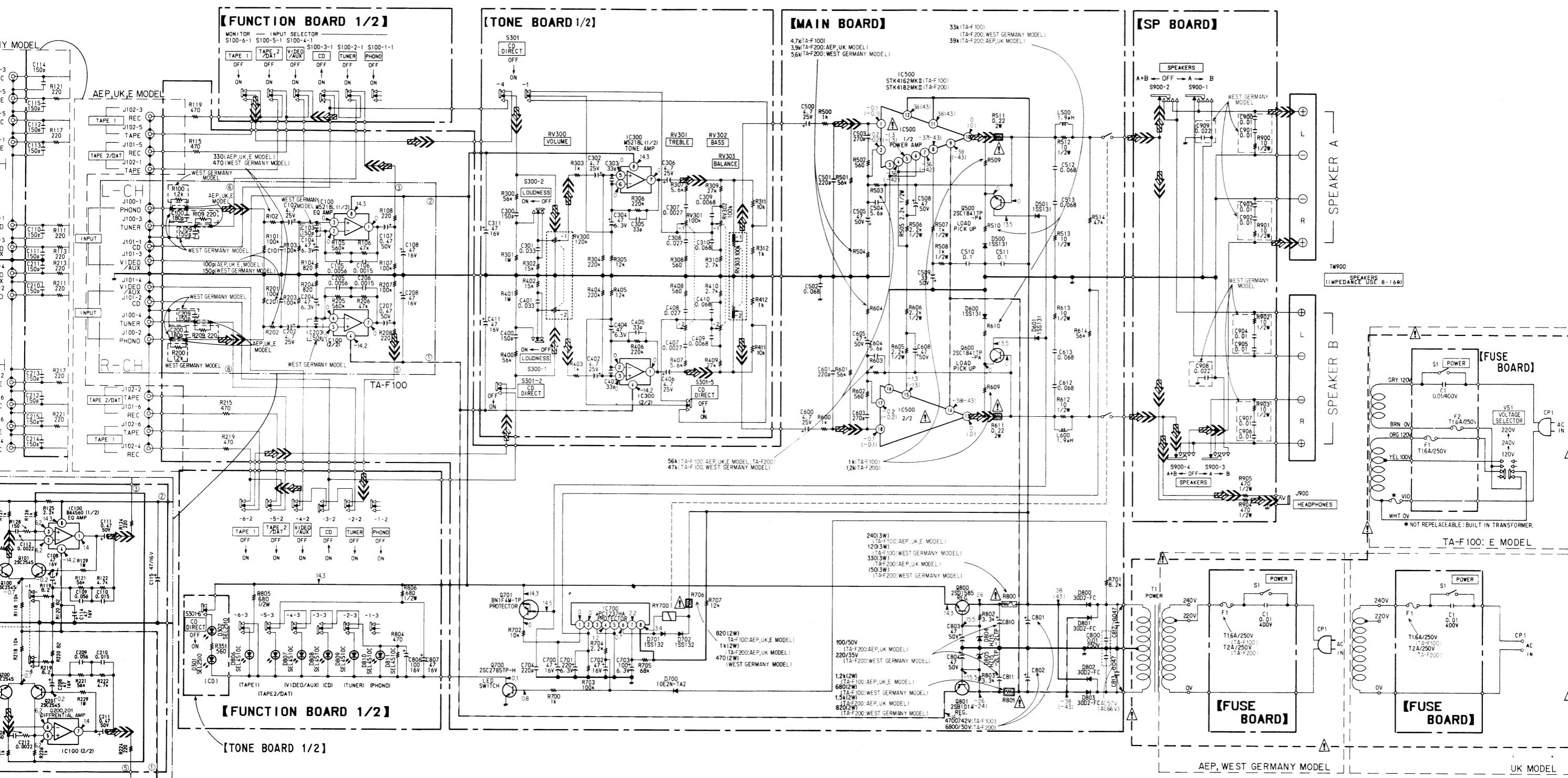
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- Signal path.
  - : PHONO
  - : nonflammable resistor.
  - : B+ Line
  - : B- Line
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- Readings are taken under no-signal conditions with a VOM (50  $\text{k}\Omega/\text{V}$ ).
- no mark: TA-F100/F200  
 ( ): TA-F200
- Switch

Ref. No.	Switch	Position
S1	POWER	OFF
S100-1	PHONO	OFF
S100-2	TUNER	OFF
S100-3	CD	ON
S100-4	VIDEO/AUX	OFF
S100-5	TAPE 2/DAT	OFF
S100-6	TAPE 1	OFF
S103	CARTRIDGE (TA-F200)	OFF
S300	LOUDNESS	OFF
S301	CD DIRECT	OFF
S900	SPEAKERS	OFF
VS901	VOLTAGE SELECTOR (TA-F100: E)	120V

**Note:** The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

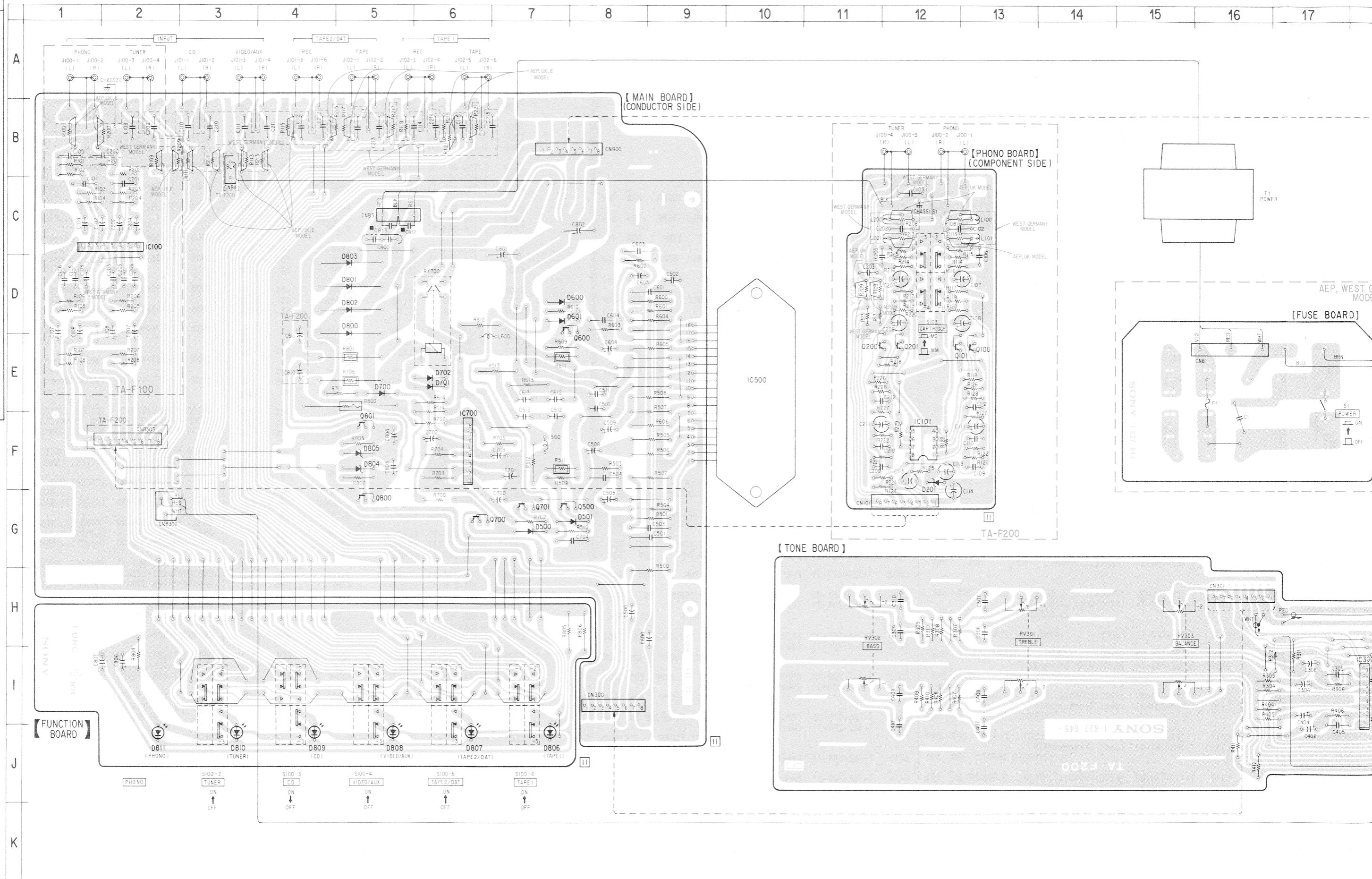
- IC700 ( $\mu$ PC1237HA) BLOCK DIAGRAM





• Semiconductor  
Location

Ref. No.	Location
D201	F-12
D301	J-19
D302	J-19
D500	G-7
D501	G-8
D600	D-7
D601	D-7
D700	E-5
D701	E-6
D702	E-6
D800	D-5
D801	D-5
D802	D-5
D803	D-5
D804	F-5
D805	F-5
D806	J-7
D807	J-6
D808	J-5
D809	J-4
D810	J-3
D811	J-2
IC100	C-2
IC101	F-12
IC300	I-18
IC500	E-10
IC700	F-6
Q100	E-13
Q101	E-13
Q200	E-12
Q201	E-12
Q500	G-7
Q600	D-7
Q700	G-6
Q701	G-7
Q800	G-5
Q801	F-5





## **SECTION 3**

# **EXPLODED VIEWS**

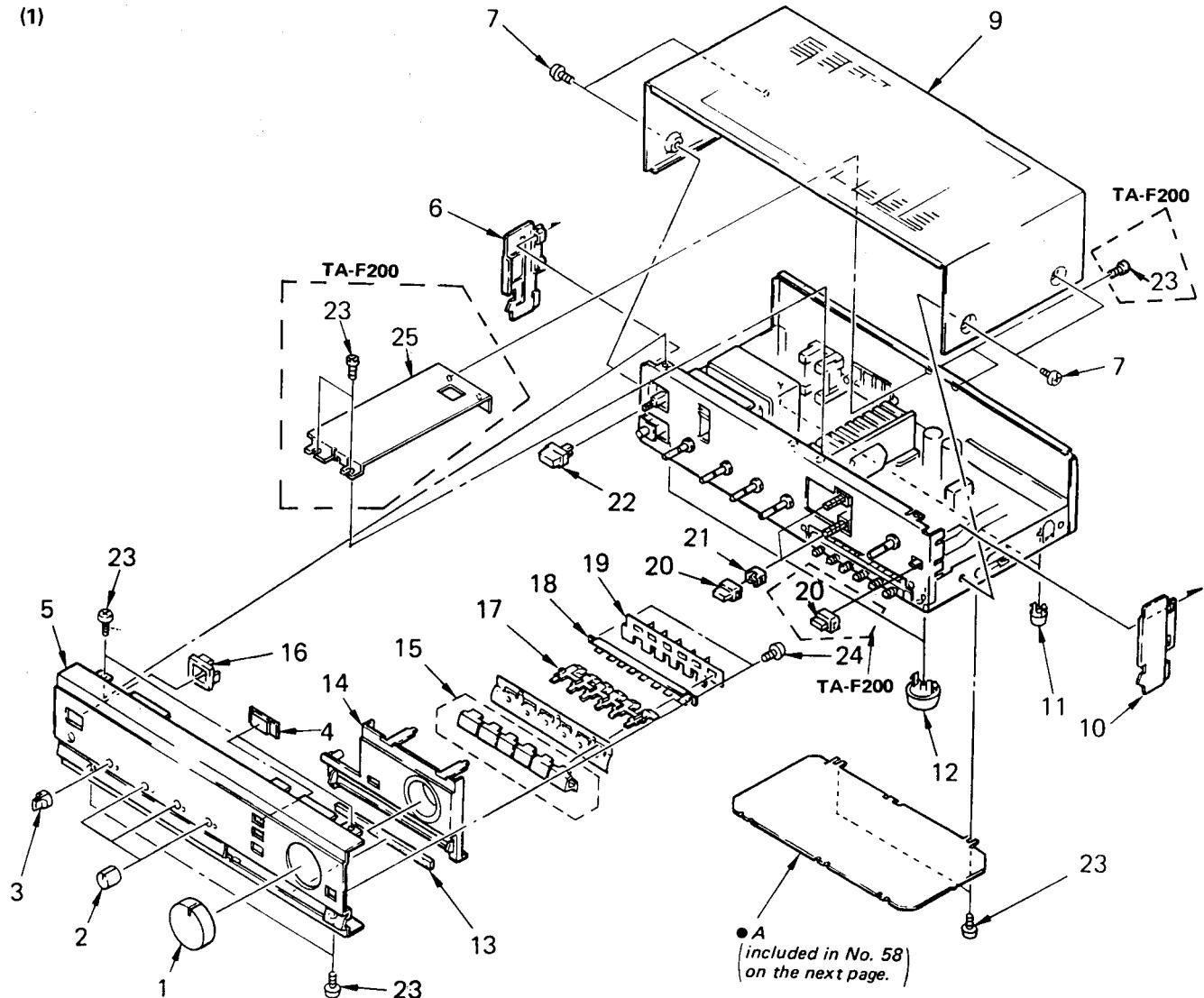
**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

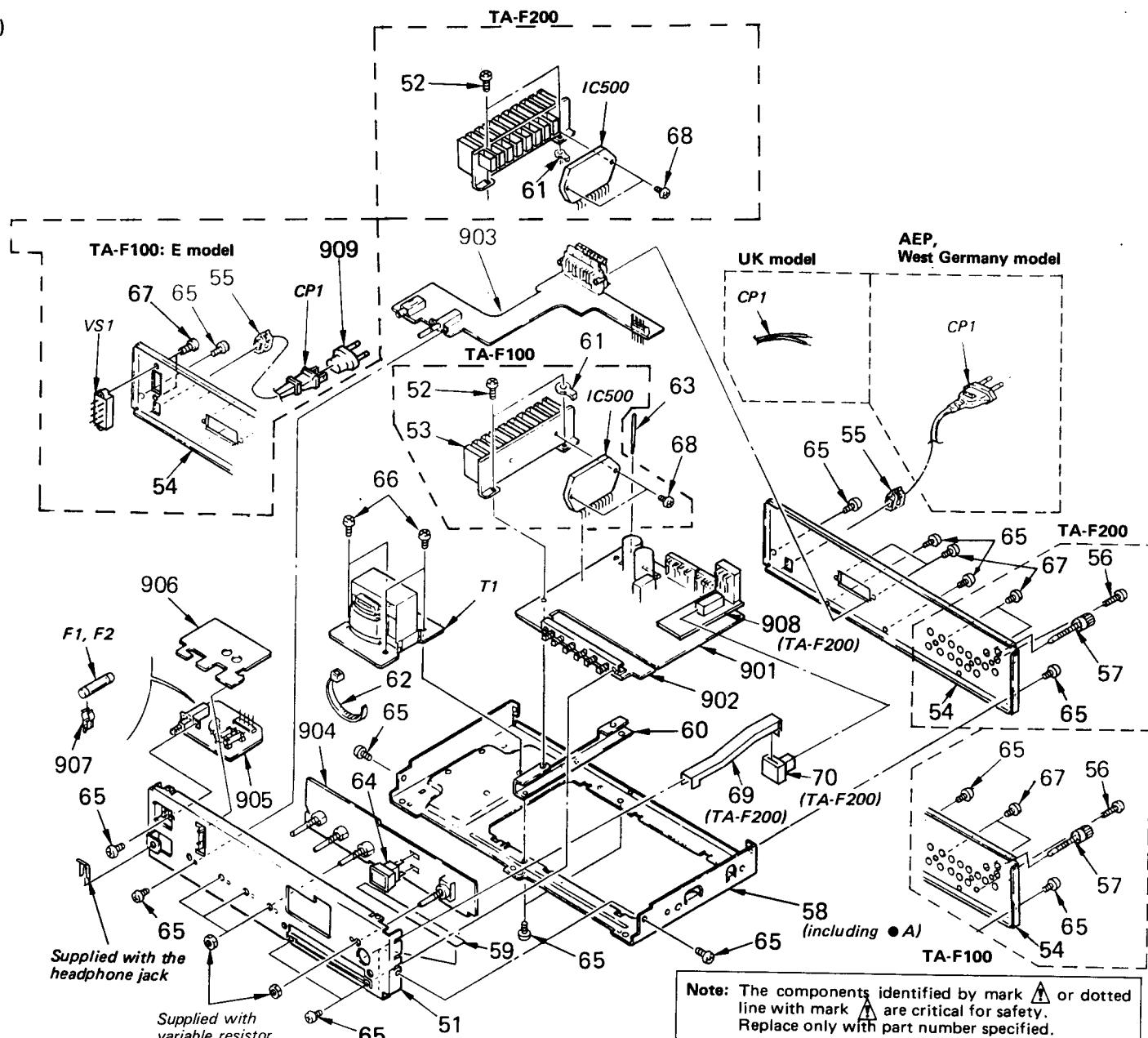
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

(1)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	X-4919-703-1	KNOB (VOL) ASSY		15	X-4904-478-1	BUTTON ASSY	
2	4-916-746-01	KNOB (DIA.21)		16	4-908-044-11	ESCUOTHEON, POWER KNOB	
3	4-916-745-01	KNOB (DIA.21)		17	4-911-295-01	PLATE, LIGHT GUIDE	
4	4-921-387-01	PLATE (CD), INDICATION		18	*4-911-292-01	BRACKET	
5	4-921-319-11	PANEL, FRONT		19	*4-921-315-01	PLATE, LIGHT INTERCEPTION	
6	4-921-316-01	PANEL (LEFT), SIDE		20	3-315-105-21	KNOB (5X16), SQUARE	
7	3-704-366-01	(F200:West Germany,UK)..SCREW (CASE)(M3X8)		21	*4-864-307-00	RING	
	4-886-821-01	(F100:E).....SCREW M3 CASE		22	4-917-460-01	KNOB, POWER	
9	3-327-853-11	CASE		23	7-682-548-04	SCREW +BVTT 3X8 (S)	
10	4-921-317-01	PANEL (RIGHT), SIDE		24	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
11	X-4864-303-0	FOOT ASSY		25	*4-921-396-01	(F200)...BRACKET (HS)	
12	X-3337-104-1	FOOT ASSY, ORNAMENTAL					
13	*4-921-313-01	CUSHION					
14	4-921-318-01	ESCUOTHEON					



**Note:** The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	*4-921-320-01	CHASSIS, SUB		901	*A-4351-688-A	(F100:AEP,UK,E).....MOUNTED PCB, MAIN	
52	3-703-685-21	SCREW (+BV 3X8)			*A-4351-689-A	(F100:West Germany)....MOUNTED PCB, MAIN	
53	*4-914-027-01	(F100)...HEAT SINK (E)			*A-4351-690-A	(F200:AEP,UK).....MOUNTED PCB, MAIN	
					*A-4351-691-A	(F200:West Germany)....MOUNTED PCB, MAIN	
54	*4-921-378-11	(F200:AEP).....PANEL, BACK		902	*1-627-643-11	PC BOARD, FUNCTION	
	*4-921-378-21	(F200:West Germany)....PANEL, BACK		903	*1-627-646-11	PC BOARD, SP	
	*4-921-378-31	(F200:UK).....PANEL, BACK		904	*1-627-645-11	PC BOARD, TONE	
	*4-921-379-11	(F100:AEP).....PANEL, BACK		905	*1-627-644-11	PC BOARD, FUSE	
	*4-921-379-21	(F100:West Germany)....PANEL, BACK		906	*1-627-648-11	PC BOARD, PROTECTOR	
	*4-921-379-31	(F100:UK).....PANEL, BACK		907	1-533-183-11	HOLDER, FUSE	
	*4-921-379-41	(F100:E).....PANEL, BACK		908	*1-627-649-11	(F200)...PC BOARD, PHONO	
55	*3-703-244-00	(F200:West Germany,UK)		909	Δ.1-526-565-00	(F100:E)...AC PLUG ADAPTOR	
		.....BUSHING (2104), CORD		CP1	Δ.1-551-188-XX	(F100:E).....CORD, POWER	
	*3-703-571-00	(F100:E).....BUSHING (S)(4516), CORD		CP1	Δ.1-555-750-00	(AEP,West Germany)...CORD, POWER	
				CP1	Δ.1-556-035-00	(UK).....CORD, POWER	
56	3-704-242-01	SCREW, TERMINAL, + BVTP CLAW		F1	Δ.1-532-203-00	(F200)...FUSE, TIME-LAG T2A	
57	*3-706-165-00	SCREW		F1	Δ.1-532-259-00	(F100)...FUSE, TIME-LAG T1.6A	
58	*3-327-854-29	CHASSIS		F2	Δ.1-532-259-00	(F100:E)...FUSE, TIME-LAG T1.6A	
59	*4-921-312-01	SCREW, INSULATING		T1	Δ.1-449-396-11	(F200)....TRANSFORMER, POWER	
60	*4-921-314-01	BRACKET (P)		T1	Δ.1-449-404-11	(F200:West Germany)....TRANSFORMER, POWER	
61	*4-881-629-00	PLATE (A), GROUND		T1	Δ.1-449-397-11	(F100:E).....TRANSFORMER, POWER	
	*3-683-631-01	(West Germany)...CLAMP		T1	Δ.1-449-405-11	(F100:West Germany)...TRANSFORMER, POWER	
64	*4-921-389-01	HOUSE		T1	Δ.1-449-997-11	(F100:AEP,UK).....TRANSFORMER, POWER	
65	7-682-548-04	SCREW +BVTT 3X8 (S)		VS1	Δ.1-570-307-11	(F100:E)...SWITCH (VOLTAGE SELECTOR)	
66	7-682-560-04	SCREW +BVTT 4X6 (S)					
67	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S					
68	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3					
69	*4-921-388-01	(F200)...JOINT (MC)					
70	4-866-342-00	(F200)...JOINT (B), KNOB					

# SECTION 4

## ELECTRICAL PARTS LIST

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

**CAPACITORS:**  
MF:  $\mu$ F, PF:  $\mu\mu$ F.

**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

**COILS**

- MMH: mH, UH:  $\mu$ H

**SEMICONDUCTORS**

In each case, U:  $\mu$ , for example:  
UA...:  $\mu$ A..., UPA...:  $\mu$ PA...,  
UPC...:  $\mu$ PC, UPD...:  $\mu$ PD...

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
901	*A-4351-688-A	(F100:AEP,UK,E).....	....MOUNTED PCB, MAIN	C113	1-124-443-00	(F200:PHONO)...	ELECT	100MF	20%	10V	
	*A-4351-689-A	(F100:West Germany)...	....MOUNTED PCB, MAIN	C113	1-162-284-31	(West Germany:MAIN)	....CERAMIC	150PF	10%	50V	
	*A-4351-690-A	(F200:AEP,UK).....	....MOUNTED PCB, MAIN	C114	1-124-589-11	(F200:PHONO)...	ELECT	47MF	20%	16V	
	*A-4351-691-A	(F200:West Germany)...	....MOUNTED PCB, MAIN	C114	1-162-284-31	(West Germany:MAIN)	....CERAMIC	150PF	10%	50V	
902	*1-627-643-11	PC BOARD, FUNCTION		C115	1-124-589-11	(F200:PHONO)...	ELECT	47MF	20%	16V	
903	*1-627-646-11	PC BOARD, SP		C115	1-162-284-31	(West Germany:MAIN)	....CERAMIC	150PF	10%	50V	
904	*1-627-645-11	PC BOARD, TONE		C200	1-162-285-31	(F100:West Germany)	....CERAMIC	180PF	10%	50V	
905	*1-627-644-11	PC BOARD, FUSE		C201	1-162-282-31	(F100:AEP,UK,E)	....CERAMIC	100PF	10%	50V	
906	*1-627-648-11	PC BOARD, PROTECTOR		C201	1-162-284-31	(F100:West Germany)	....CERAMIC	150PF	10%	50V	
907	1-533-183-11	HOLDER, FUSE		C202	1-126-094-11	(F100)...	ELECT	4.7MF	20%	25V	
908	*1-627-649-11	(F200)...	PC BOARD, PHONO	C202	1-162-284-31	(F200:West Germany)	....CERAMIC	150PF	10%	50V	
909	△.1-526-565-00	(F100:E)...	AC PLUG ADAPTOR	C203	1-101-361-00	(F100:West Germany)	....CERAMIC	150PF	5%	50V	
C100	△.1-161-744-00	CERAMIC	0.01MF	C203	1-162-286-31	(F200:West Germany)	....CERAMIC	220PF	10%	50V	
	1-162-285-31	(F100:West Germany)		C204	1-126-154-11	(F100)...	ELECT	47MF	20%	6.3V	
C101	1-162-282-31	(F100:AEP,UK,E)	....CERAMIC	C205	1-130-480-00	(F100)...	MYLAR	0.0056MF	5%	50V	
C101	1-162-284-31	(F100:West Germany)	....CERAMIC	C206	1-130-473-00	(F100)...	MYLAR	0.0015MF	5%	50V	
C102	1-126-094-11	(F100).....	ELECT	C206	1-162-284-31	(F200)...	CERAMIC	150PF	10%	50V	
C102	1-162-284-31	(F200:West Germany)	....CERAMIC	C207	1-124-465-00	(F100)...	ELECT	0.47MF	20%	50V	
C103	1-101-361-00	(F100:West Germany)	....CERAMIC	C207	1-124-927-11	(F200)...	ELECT	4.7MF	20%	50V	
C103	1-162-286-31	(F200:West Germany)	....CERAMIC	C208	1-124-477-11	ELECT		47MF	20%	16V	
C104	1-126-154-11	(F100)...	ELECT	C209	1-136-162-00	(F200)...	FILM	0.056MF	5%	50V	
C105	1-130-480-00	(F100)...	MYLAR	C209	1-162-284-31	(F100:West Germany)	....ELECT	150PF	10%	50V	
C106	1-130-473-00	(F100)...	MYLAR	C210	1-136-155-00	(F200:PHONO)...	FILM	0.015MF	5%	50V	
C106	1-162-284-31	(F200)...	CERAMIC	C210	1-162-284-31	(West Germany:MAIN)	....CERAMIC	150PF	10%	50V	
C107	1-124-465-00	(F100).....	ELECT	C211	1-124-902-00	(F200:PHONO)...	ELECT	0.47MF	20%	50V	
C107	1-124-927-11	(F200:West Germany)	....ELECT	C211	1-162-284-31	(West Germany:MAIN)	....CERAMIC	150PF	10%	50V	
C108	1-124-477-11	ELECT	47MF	C212	1-130-475-00	(F200:PHONO)...	MYLAR	0.0022MF	5%	50V	
C109	1-136-162-00	(F200)....	FILM	C212	1-162-284-31	(West Germany:MAIN)	....CERAMIC	150PF	10%	50V	
C109	1-162-284-31	(F100:West Germany)	....CERAMIC	C213	1-162-284-31	(West Germany:MAIN)	....CERAMIC	150PF	10%	50V	
C110	1-136-155-00	(F200:PHONO)...	FILM	C214	1-162-284-31	(West Germany:MAIN)	....CERAMIC	150PF	10%	50V	
C110	1-162-284-31	(West Germany:MAIN)	....CERAMIC	C214	1-162-284-31	(West Germany:MAIN)	....CERAMIC	150PF	10%	50V	
C111	1-124-902-00	(F200:PHONO)...	ELECT	C215	1-162-284-31	(West Germany:MAIN)	....CERAMIC	150PF	10%	50V	
C111	1-162-284-31	(West Germany:MAIN)	....CERAMIC								
C112	1-130-475-00	(F200:PHONO)...	MYLAR								
C112	1-162-284-31	(West Germany:MAIN)	....CERAMIC								

Ref.No.	Part No.	Description											
C300	1-162-284-31	CERAMIC	150PF	10%	50V		C806	1-126-101-11	ELECT	100MF	20%	16V	
C301	1-136-159-00	FILM	0.033MF	5%	50V		C807	1-124-477-11	ELECT	47MF	20%	16V	
C302	1-126-094-11	ELECT	4.7MF	20%	25V		C810	1-124-484-11	(F200:West Germany)	...ELECT	220MF	20%	35V
C303	1-162-211-31	CERAMIC	33PF	5%	50V		C810	1-124-122-11	(F200:AEP,UK)	...ELECT	100MF	20%	50V
C304	1-126-154-11	ELECT	47MF	20%	6.3V		C811	1-124-484-11	(F200:West Germany)	...ELECT	220MF	20%	35V
C305	1-162-211-31	CERAMIC	33PF	5%	50V		C811	1-124-122-11	(F200:AEP,UK)	...ELECT	100MF	20%	50V
C306	1-126-094-11	ELECT	4.7MF	20%	25V		C812	1-136-161-00	FILM	0.047MF	5%	50V	
C307	1-130-476-00	MYLAR	0.0027MF	5%	50V		C813	1-136-161-00	FILM	0.047MF	5%	50V	
C308	1-136-158-00	FILM	0.027MF	5%	50V		C900	1-136-153-00	(West Germany)	...FILM	0.01MF	5%	50V
C309	1-130-481-00	MYLAR	0.0068MF	5%	50V		C901	1-136-153-00	(West Germany)	...FILM	0.01MF	5%	50V
C310	1-136-163-00	FILM	0.068MF	5%	50V		C902	1-136-153-00	(West Germany)	...FILM	0.01MF	5%	50V
C311	1-124-589-11	ELECT	47MF	20%	16V		C903	1-136-153-00	(West Germany)	...FILM	0.01MF	5%	50V
C400	1-162-284-31	CERAMIC	150PF	10%	50V		C904	1-136-153-00	(West Germany)	...FILM	0.01MF	5%	50V
C401	1-136-159-00	FILM	0.033MF	5%	50V		C905	1-136-153-00	(West Germany)	...FILM	0.01MF	5%	50V
C402	1-126-094-11	ELECT	4.7MF	20%	25V		C906	1-136-153-00	(West Germany)	...FILM	0.01MF	5%	50V
C403	1-162-211-31	CERAMIC	33PF	5%	50V		C907	1-136-153-00	(West Germany)	...FILM	0.01MF	5%	50V
C404	1-126-154-11	ELECT	47MF	20%	6.3V		C908	1-161-494-00	(West Germany)	...CERAMIC	0.022MF	30%	25V
C405	1-162-211-31	CERAMIC	33PF	5%	50V		C909	1-161-494-00	(West Germany)	...CERAMIC	0.022MF	30%	25V
C406	1-126-094-11	ELECT	4.7MF	20%	25V		CN100	*1-566-878-11	(F200)...PIN, CONNECTOR (PC BOARD)	8P			
C407	1-130-476-00	MYLAR	0.0027MF	5%	50V		CN300	*1-566-879-11	PIN, CONNECTOR (PC BOARD)	8P			
C408	1-136-158-00	FILM	0.027MF	5%	50V		CN301	*1-562-573-11	SOCKET, CONNECTOR 8P				
C409	1-130-481-00	MYLAR	0.0068MF	5%	50V		CN900	*1-566-878-11	PIN, CONNECTOR (PC BOARD)	8P			
C410	1-136-163-00	FILM	0.068MF	5%	50V		CN901	*1-562-573-11	SOCKET, CONNECTOR 8P				
C411	1-124-589-11	ELECT	47MF	20%	16V		CNB1	*1-535-140-00	(EXCEPT FOR F100:E)				
C500	1-126-094-11	ELECT	4.7MF	20%	25V		CNB1	*1-535-141-00	...BASE POST 22MM (10MM PITCH)3P				
C501	1-162-286-31	CERAMIC	220PF	10%	50V		CNB1	*1-535-141-00	(F100:E)..BASE POST 22MM (10MM PITCH)4P				
C502	1-136-163-00	FILM	0.068MF	5%	50V		CNB2	*1-535-140-00	(F100:E)..BASE POST 22MM (10MM PITCH)3P				
C503	1-162-287-31	CERAMIC	270PF	10%	50V		CNB3	*1-535-116-00	TERMINAL				
C504	1-162-196-31	CERAMIC	5.6PF	10%	50V		CNB4	*1-535-115-00	(F200)...TERMINAL				
C505	1-124-910-11	ELECT	47MF	20%	50V		CNB302	*1-566-451-11	HOUSING, CONNECTOR 3P				
C508	1-124-910-11	ELECT	47MF	20%	50V		CNB303	*1-562-573-11	(F200)...SOCKET, CONNECTOR 8P				
C509	1-124-917-11	ELECT	33MF	20%	50V		CNB304	*1-566-839-11	HOLDER, CABLE (PC BAORD) 3P				
C510	1-136-165-00	FILM	0.1MF	5%	50V		CNJ100	1-507-788-00	JACK, PIN 4P				
C511	1-136-165-00	FILM	0.1MF	5%	50V		CNJ101	1-507-911-11	JACK, PIN 6P				
C512	1-136-163-00	FILM	0.068MF	5%	50V		CNJ102	1-507-911-11	(CD,VIDEO/AUX,TAPE 2 REC OUT)				
C513	1-136-163-00	FILM	0.068MF	5%	50V								
C600	1-126-094-11	ELECT	4.7MF	20%	25V		CP1	▲1-551-188-XX	(F100:E).....CORD, POWER				
C601	1-162-286-31	CERAMIC	220PF	10%	50V		CP1	▲1-555-750-00	(AEP,West Germany)....CORD, POWER				
C603	1-162-287-31	CERAMIC	270PF	10%	50V		CP1	▲1-556-035-00	(UK).....CORD, POWER				
C604	1-162-196-31	CERAMIC	5.6PF	10%	50V		D201	8-719-910-75	(F200)...DIODE HZ7B2L				
C605	1-124-910-11	ELECT	47MF	20%	50V		D301	8-719-303-00	DIODE SEL2510C				
C608	1-124-910-11	ELECT	47MF	20%	50V		D302	8-719-303-00	DIODE SEL2510C				
C612	1-136-163-00	FILM	0.068MF	5%	50V		D500	8-719-940-69	DIODE 1SS131				
C613	1-136-163-00	FILM	0.068MF	5%	50V		D501	8-719-940-69	DIODE 1SS131				
C700	1-124-477-11	ELECT	47MF	20%	16V		D600	8-719-940-69	DIODE 1SS131				
C701	1-126-176-11	ELECT	220MF	20%	6.3V		D601	8-719-940-69	DIODE 1SS131				
C702	1-124-477-11	ELECT	47MF	20%	16V		D700	8-719-200-77	DIODE 10E2N				
C703	1-124-443-00	ELECT	100MF	20%	6.3V		D701	8-719-000-26	DIODE US1060M				
C704	1-162-286-31	CERAMIC	220PF	10%	50V								
C800	1-102-355-00	CERAMIC	0.01MF	10%	250V								
C801	1-126-224-11	(F100)...ELECT	4700MF	20%	42V								
C801	1-126-307-11	(F200)...ELECT	6800MF	20%	50V								
C802	1-126-224-11	(F100)...ELECT	4700MF	20%	42V								
C802	1-126-307-11	(F200)...ELECT	6800MF	20%	50V								
C803	1-124-910-11	ELECT	47MF	20%	50V								
C804	1-124-910-11	ELECT	47MF	20%	50V								

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Ref.No.	Part No.	Description
D702	8-719-000-26	DIODE US1060M
D800	8-719-230-04	DIODE 30D4
D801	8-719-230-04	DIODE 30D4
D802	8-719-230-04	DIODE 30D4
D803	8-719-230-04	DIODE 30D4
D804	8-719-910-52	DIODE HZ15-2L
D805	8-719-910-52	DIODE HZ15-2L
D806	8-719-303-64	DIODE SEL4510C
D807	8-719-303-64	DIODE SEL4510C
D808	8-719-303-64	DIODE SEL4510C
D809	8-719-303-64	DIODE SEL4510C
D810	8-719-303-64	DIODE SEL4510C
D811	8-719-303-64	DIODE SEL4510C
F1	▲.1-532-203-00	(F200)...FUSE, TIME-LAG T2A
F1	▲.1-532-259-00	(F100)...FUSE, TIME-LAG T1.6A
F2	▲.1-532-259-00	(F100:E)...FUSE, TIME-LAG T1.6A
IC100	8-759-600-02	(F100)...IC M5218L
IC100	8-759-923-90	(F200)...IC BA4560
IC300	8-759-600-02	IC M5218L
IC500▲	8-749-900-24	(F100)...IC STK4162MK2
IC500▲	8-749-900-34	(F200)...IC STK4182MK2
IC700	8-759-111-68	IC UPC1237HA
J900	1-507-796-21	JACK (HEADPHONES)
L100	1-413-101-00	(F200:West Germany)...COIL, INPUT
L101	1-413-101-00	(F200:West Germany)...COIL, INPUT
L200	1-413-101-00	(F200:West Germany)...COIL, INPUT
L201	1-413-101-00	(F200:West Germany)...COIL, INPUT
L500	*1-420-872-00	COIL, AIR CORE
L600	*1-420-872-00	COIL, AIR CORE
Q100	8-729-354-52	(F200)...TRANSISTOR 2SC2545
Q101	8-729-354-52	(F200)...TRANSISTOR 2SC2545
Q200	8-729-354-52	(F200)...TRANSISTOR 2SC2545
Q201	8-729-354-52	(F200)...TRANSISTOR 2SC2545
Q500	8-729-108-06	TRANSISTOR 2SC1841
Q600	8-729-108-06	TRANSISTOR 2SC1841
Q700	8-729-600-27	TRANSISTOR 2SC634SP
Q701	8-729-900-63	TRANSISTOR DTA124ES
Q800	8-729-107-26	TRANSISTOR 2SD1585-K
Q801	8-729-802-22	TRANSISTOR 2SB1014
R100	1-249-418-11	(F100:West Germany)
		...CARBON 1.2K 5% 1/4W
R101	1-249-441-11	(F100)...CARBON 100K 5% 1/4W
R102	1-249-411-11	(F100:AEP,UK,E)
		...CARBON 330 5% 1/4W
R102	1-249-413-11	(F100:West Germany)
		...CARBON 470 5% 1/4W
R103	1-249-441-11	(F100)...CARBON 100K 5% 1/4W
R104	1-249-416-11	(F100)...CARBON 820 5% 1/4W
R105	1-247-897-11	(F100)...CARBON 560K 5% 1/4W
R106	1-249-437-11	(F100)...CARBON 47K 5% 1/4W
R107	1-249-441-11	(F100)...CARBON 100K 5% 1/4W
R108	1-249-409-11	(F100)...CARBON 220 5% 1/4W
R108	1-249-417-11	(F200:West Germany)
		...CARBON 1K 5% 1/4W
R109	1-249-409-11	(F100:West Germany)
		...CARBON 220 5% 1/4W
R109	1-249-413-11	(F200:West Germany)
		...CARBON 470 5% 1/4W
R111	1-249-409-11	(West Germany:MAIN)
		...CARBON 220 5% 1/4W

Ref.No.	Part No.	Description
R113	1-249-409-11	(West Germany:MAIN)
		...CARBON 220 5% 1/4W
R113	1-249-417-11	(F200:West Germany:PHONO)
		...CARBON 1K 5% 1/4W
R114	1-249-405-11	(F200)...CARBON 100 5% 1/4W
R115	1-249-413-11	(MAIN).....CARBON 470 5% 1/4W
R115	1-249-441-11	(F200:PHONO)...CARBON 100K 5% 1/4W
R116	1-249-405-11	(F200)...CARBON 100 5% 1/4W
R117	1-249-409-11	(West Germany:MAIN)
		...CARBON 220 5% 1/4W
R117	1-249-441-11	(F200:PHONO)...CARBON 100K 5% 1/4W
R118	1-249-429-11	(F200)...CARBON 10K 5% 1/4W
R119	1-249-392-11	(F200:PHONO)...CARBON 8.2 5% 1/4W
R119	1-249-413-11	(MAIN).....CARBON 470 5% 1/4W
R120	1-249-404-00	(F200)...CARBON 82 5% 1/4W
R121	1-249-409-11	(West Germany:MAIN)
		...CARBON 220 5% 1/4W
R121	1-249-438-11	(F200:PHONO)...CARBON 56K 5% 1/4W
R122	1-249-425-11	(F200)...CARBON 4.7K 5% 1/4W
R124	1-249-409-11	(F200)...CARBON 220 5% 1/4W
R125	1-249-421-11	(F200)...CARBON 2.2K 5% 1/4W
R126	1-249-417-11	(F200)...CARBON 1K 5% 1/4W
R127	1-249-417-11	(F200)...CARBON 1K 5% 1/4W
R128	1-249-407-11	(F200)...CARBON 150 5% 1/4W
R129	1-247-903-00	(F200)...CARBON 1M 5% 1/4W
R131	1-247-903-00	(F200)...CARBON 1M 5% 1/4W
R200	1-249-418-11	(F100:West Germany)
		...CARBON 1.2K 5% 1/4W
R201	1-249-441-11	(F100)...CARBON 100K 5% 1/4W
R202	1-249-411-11	(F100:AEP,UK,E)
		...CARBON 330 5% 1/4W
R202	1-249-413-11	(F100:West Germany)
		...CARBON 470 5% 1/4W
R203	1-249-441-11	(F100)...CARBON 100K 5% 1/4W
R204	1-249-416-11	(F100)...CARBON 820 5% 1/4W
R205	1-247-897-11	(F100)...CARBON 560K 5% 1/4W
R206	1-249-437-11	(F100)...CARBON 47K 5% 1/4W
R207	1-249-441-11	(F100)...CARBON 100K 5% 1/4W
R208	1-249-409-11	(F100)...CARBON 220 5% 1/4W
R208	1-249-417-11	(F200:West Germany)
		...CARBON 1K 5% 1/4W
R209	1-249-409-11	(F100:West Germany)
		...CARBON 220 5% 1/4W
R209	1-249-413-11	(F200:West Germany)
		...CARBON 470 5% 1/4W
R211	1-249-409-11	(West Germany:MAIN)
		...CARBON 220 5% 1/4W
R213	1-249-409-11	(West Germany:MAIN)
		...CARBON 220 5% 1/4W
R213	1-249-417-11	(F200:West Germany,PHONO)
		...CARBON 1K 5% 1/4W
R214	1-249-405-11	(F200)...CARBON 100 5% 1/4W
R215	1-249-413-11	(MAIN)...CARBON 470 5% 1/4W
R215	1-249-441-11	(F200:PHONO)...CARBON 100K 5% 1/4W
R216	1-249-405-11	(F200)...CARBON 100 5% 1/4W
R217	1-249-409-11	(West Germany:MAIN)
		...CARBON 220 5% 1/4W
R217	1-249-441-11	(F200:PHONO)...CARBON 100K 5% 1/4W
R218	1-249-429-11	(F200)...CARBON 10K 5% 1/4W
R219	1-249-392-11	(F200:PHONO)...CARBON 8.2 5% 1/4W
R219	1-249-413-11	(MAIN).....CARBON 470 5% 1/4W

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Ref. No.	Part No.	Description				Ref. No.	Part No.	Description			
R220	1-249-404-00	(F200)...CARBON	82	5%	1/4W	R504	1-247-721-11	(F100).....CARBON	4.7K	5%	1/4W
R221	1-249-409-11	(West Germany) ...CARBON	220	5%	1/4W	R504	1-247-720-11	(F200:AEP,UK)...CARBON	3.9K	5%	1/4W
R221	1-249-438-11	(F200:PHONO)...CARBON	56K	5%	1/4W	R504	1-247-722-11	(F200:West Germany) ...CARBON	5.6K	5%	1/4W
R222	1-249-425-11	(F200)...CARBON	4.7K	5%	1/4W	R505	1-247-756-11	CARBON	2.2K	5%	1/2W
R224	1-249-409-11	(F200)...CARBON	220	5%	1/4W	R506	1-247-756-11	CARBON	2.2K	5%	1/2W
R226	1-249-417-11	(F200)...CARBON	1K	5%	1/4W	R507	1-247-752-11	CARBON	1K	5%	1/2W
R227	1-249-417-11	(F200)...CARBON	1K	5%	1/4W	R508	1-247-752-11	CARBON	1K	5%	1/2W
R228	1-249-407-11	(F200)...CARBON	150	5%	1/4W	R509	1-247-713-11	(F100)...CARBON	1K	5%	1/4W
R229	1-247-903-00	(F200)...CARBON	1M	5%	1/4W	R509	1-247-714-11	(F200)...CARBON	1.2K	5%	1/4W
R231	1-247-903-00	(F200)...CARBON	1M	5%	1/4W	R510	1-247-726-11	(F200:West Germany,F100) ...CARBON	33K	5%	1/4W
R300	1-249-438-11	CARBON	56K	5%	1/4W	R510	1-249-464-11	(F200:AEP,UK)...CARBON	39K	5%	1/4W
R301	1-247-903-00	CARBON	1M	5%	1/4W	R511	▲ 1-217-151-00	RES, METAL PLATE 0.22			
R302	1-249-431-11	CARBON	15K	5%	1/4W	R512	▲ 1-247-727-11	CARBON	10	5%	1/2W
R303	1-249-417-11	CARBON	1K	5%	1/4W	R513	1-247-727-11	CARBON	10	5%	1/2W
R304	1-247-887-00	CARBON	220K	5%	1/4W	R514	1-249-465-11	CARBON	47K	5%	1/4W
R305	1-249-430-11	CARBON	12K	5%	1/4W	R600	1-247-713-11	CARBON	1K	5%	1/4W
R306	1-247-887-00	CARBON	220K	5%	1/4W	R601	1-249-466-11	CARBON	56K	5%	1/4W
R307	1-249-426-11	CARBON	5.6K	5%	1/4W	R602	1-247-710-11	CARBON	560	5%	1/4W
R308	1-249-414-11	CARBON	560	5%	1/4W	R603	1-249-465-11	(F100:West Germany) ...CARBON	47K	5%	1/4W
R309	1-249-434-11	CARBON	27K	5%	1/4W	R603	1-249-466-11	(EXCEPT F100:West Germany) ...CARBON	56K	5%	1/4W
R310	1-249-422-11	CARBON	2.7K	5%	1/4W	R604	1-247-721-11	(F100).....CARBON	4.7K	5%	1/4W
R311	1-249-429-11	CARBON	10K	5%	1/4W	R604	1-247-720-11	(F200:AEP,UK)...CARBON	3.9K	5%	1/4W
R312	1-249-417-11	CARBON	1K	5%	1/4W	R604	1-247-722-11	(F200:West Germany) ...CARBON	5.6K	5%	1/4W
R351	1-247-710-11	CARBON	560	5%	1/4W	R605	1-247-756-11	CARBON	2.2K	5%	1/2W
R400	1-249-438-11	CARBON	56K	5%	1/4W	R606	1-247-756-11	CARBON	2.2K	5%	1/2W
R401	1-247-903-00	CARBON	1M	5%	1/4W	R609	1-247-714-11	(F200)...CARBON	1.2K	5%	1/4W
R402	1-249-431-11	CARBON	15K	5%	1/4W	R609	1-247-713-11	(F100)...CARBON	1K	5%	1/2W
R403	1-249-417-11	CARBON	1K	5%	1/4W	R610	1-247-726-11	(F200:West Germany,F100) ...CARBON	33K	5%	1/4W
R404	1-247-887-00	CARBON	220K	5%	1/4W	R610	1-249-464-11	(F200:AEP,UK)...CARBON	39K	5%	1/4W
R405	1-249-430-11	CARBON	12K	5%	1/4W	R611	▲ 1-217-151-00	RES, METAL PLATE 0.22			
R406	1-247-887-00	CARBON	220K	5%	1/4W	R612	1-247-727-11	CARBON	10	5%	1/2W
R407	1-249-426-11	CARBON	5.6K	5%	1/4W	R613	1-247-727-11	CARBON	10	5%	1/2W
R408	1-249-414-11	CARBON	560	5%	1/4W	R614	1-249-466-11	CARBON	56K	5%	1/4W
R409	1-249-434-11	CARBON	27K	5%	1/4W	R700	1-247-713-11	CARBON	1K	5%	1/4W
R410	1-249-422-11	CARBON	2.7K	5%	1/4W	R701	1-247-724-11	CARBON	8.2K	5%	1/4W
R411	1-249-429-11	CARBON	10K	5%	1/4W	R702	1-247-725-11	CARBON	10K	5%	1/4W
R412	1-249-417-11	CARBON	1K	5%	1/4W	R703	1-249-469-11	CARBON	100K	5%	1/4W
R500	1-247-713-11	CARBON	1K	5%	1/4W	R704	1-247-717-11	CARBON	2.2K	5%	1/4W
R501	1-249-466-11	CARBON	56K	5%	1/4W	R705	1-249-467-11	CARBON	68K	5%	1/4W
R502	1-247-710-11	CARBON	560	5%	1/4W						
R503	1-249-465-11	(F100:West Germany) ...CARBON	47K	5%	1/4W						
R503	1-249-466-11	(EXCEPT F100:West Germany) ...CARBON	56K	5%	1/4W						

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Ref.No.	Part No.	Description			
R706	△.1-206-662-00	(F100:AEP,UK,E)	...METAL OXIDE	820	5% 2W F
R706	△.1-215-890-11	(West Germany)	...METAL OXIDE	470	5% 2W F
R706	△.1-215-892-11	(F200:AEP,UK)	...METAL OXIDE	1K	5% 2W F
R707	1-249-459-11	CARBON	12K	5%	1/4W
R800	△.1-207-637-00	(F200:West Germany)	...METAL OXIDE	150	5% 3W F
R800	△.1-206-713-00	(F200:AEP,UK)	...METAL OXIDE	330	5% 3W F
R800	△.1-206-710-00	(F100:AEP,UK,E)	...METAL OXIDE	240	5% 3W F
R800	△.1-216-475-11	(F100:West Germany)	...METAL OXIDE	120	5% 3W F
R801	△.1-206-660-00	(F100:West Germany)	...METAL OXIDE	680	5% 2W F
R801	△.1-206-666-00	(F100:AEP,UK,E)	...METAL OXIDE	1.2K	5% 2W F
R801	△.1-206-662-00	(F200:West Germany)	...METAL OXIDE	820	5% 2W F
R801	△.1-215-893-11	(F200:AEP,UK)	...METAL OXIDE	1.5K	5% 2W F
R802	1-247-719-11	CARBON	3.3K	5%	1/4W
R803	1-247-719-11	CARBON	3.3K	5%	1/4W
R804	1-247-708-11	CARBON	470	5%	1/4W
R805	1-247-750-11	CARBON	680	5%	1/2W
R806	1-247-750-11	CARBON	680	5%	1/2W
R900	1-247-727-11	(West Germany)...CARBON	10	5%	1/2W
R901	1-247-727-11	(West Germany)...CARBON	10	5%	1/2W
R902	1-247-727-11	(West Germany)...CARBON	10	5%	1/2W
R903	1-247-727-11	(West Germany)...CARBON	10	5%	1/2W
R904	1-247-747-11	CARBON	470	5%	1/2W
R905	1-247-747-11	CARBON	470	5%	1/2W
RV300	1-237-846-11	RES, VAR, CARBON	120K/120K	(VOLUME)	
RV301	1-237-740-11	RES, VAR, CARBON	100K/100K	(TREBLE)	
RV302	1-237-740-11	RES, VAR, CARBON	100K/100K	(BASS)	
RV303	1-237-739-11	RES, VAR, CARBON	100K/100K	(BALANCE)	
RY700	1-515-533-11	RELAY			
S1	△.1-554-920-11	SWITCH, PUSH (AC POWER)(1 KEY)			
S100	1-571-118-11	SWITCH, PUSH (6 KEY)(INPUT SELECTOR)			
S103	1-571-111-11	(F200)..SWITCH, PUSH (1 KEY)(CARTRIDGE)			
S300	1-571-112-11	SWITCH, PUSH (1 KEY)(LOUDNESS)			
S301	1-571-637-11	SWITCH, PUSH (1 KEY)(CD DIRECT)			
S900	1-571-109-11	SWITCH, ROTARY SLIDE (SPEAKERS)			

Ref.No.	Part No.	Description			
T1	△.1-449-396-11	(F200:AEP,UK).....	TRANSFORMER, POWER		
T1	△.1-449-397-11	(F100:E).....	TRANSFORMER, POWER		
T1	△.1-449-404-11	(F200:West Germany)	.....	TRANSFORMER, POWER	
T1	△.1-449-405-11	(F100:West Germany)	.....	TRANSFORMER, POWER	
T1	△.1-449-997-11	(F100:AEP,UK).....	TRANSFORMER, POWER		
TM900	1-536-706-00	TERMINAL BOARD (SPEAKERS)			
VS1	△.1-570-307-11	(F100:E)...	SWITCH (VOLTAGE SELECTOR)		

#### ACCESSORY & PACKING MATERIAL

*3-346-378-41	(F100)....	INDIVIDUAL CARTON
*3-346-378-51	(F200)....	INDIVIDUAL CARTON
3-786-294-11	(AEP,UK,E)...	MANUAL, INSTRUCTION (ENGLISH,FRENCH,SPANISH,PORTUGUESE)
3-786-294-41	(AEP,West Germany)...	MANUAL, INSTRUCTION (GERMAN,DUTCH,SWEDISH,ITALIAN)
4-921-311-01	CUSHION	

**Note:** The components identified by mark  or dotted line with mark  are critical for safety.  
Replace only with part number specified.